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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Pankaj Vyas

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05/12/2006

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EXAMINER

MOORE JR, MICHAEL J

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

09/904,593

**Applicant(s)**

VYAS, PANKAJ

**Examiner**

Michael J. Moore, Jr.

**Art Unit**

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-16,18-27,29-39,41-47 and 52-55 is/are pending in the application.
- 4a) Of the above claim(s) 12-15,24-26 and 36-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,16,18-23,27,29-34,39,41-46 and 52-55 is/are rejected.
- 7) ☒ Claim(s) 11,35 and 47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/21/2006 has been entered.

### ***Election/Restrictions***

2. Claims **12-15, 24-26, and 36-38** remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention. Applicant is requested to cancel these non-elected claims.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 2/21/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

### ***Claim Objections***

4. Claims **3, 18, 29, and 41** are objected to because of the following informalities:

Regarding claim **3**, this claim is objected to as it currently depends upon cancelled claim **2**. It is believed that this claim should now depend on claim **1**.

Regarding claim **18**, this claim is objected to as it currently depends upon cancelled claim **17**. It is believed that this claim should now depend on claim **16**.

Regarding claim **29**, this claim is objected to as it currently depends upon cancelled claim **28**. It is believed that this claim should now depend on claim **27**.

Regarding claim **41**, this claim is objected to as it currently depends upon cancelled claim **40**. It is believed that this claim should now depend on claim **39**.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claim **29** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim **29** recites the limitation "said data structure" in line 2. There is insufficient antecedent basis for this limitation in the claim. Based upon Applicant's amendments to independent claims **1**, **16**, and **39**, it is believed that independent claim **27** was meant to include the limitation "a data structure" in place of "a table" on line 14.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims **1, 3-10, 16, 18-23, 27, 29-34, 39, and 41-46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al. cited in Applicant's IDS submitted 2/21/06 (hereinafter "*Lai*").

Regarding claims **1 and 3**, *Lai* teaches a priority scheme for IP with QoS over ATM on page 21, where the precedence field in the ToS field of an IP header is used to determine which switched virtual circuit (SVC) to use for a particular data flow.

*Lai* does not explicitly teach the maintaining and use of a table data structure that correlates specific precedence values of a ToS field with corresponding SVCs.

However, *Lai* further teaches on page 30 how the precedence field yields 8 different service classes of priority, and also teaches on page 31 how real-time traffic classes have their own SVCs while lower priority classes are sent on aggregate SVCs.

*Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given the above teachings, to perform the above algorithm using a table data structure in order to provide organized storage of the data used for comparison.

Regarding claim **4**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **5**, *Lai* further teaches the provisioning of aggregate and dedicated SVCs on page 22, Figures 7 and 8.

Regarding claim **6**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **7**, *Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

Regarding claim **8**, *Lai* further teaches the reception of a client request by an end-station and the following determination of which SVC to use based upon the precedence value on pages 32-33.

Regarding claim **9**, *Lai* further teaches the 3-bit precedence data present in the ToS octet of an IP datagram header as shown on page 28.

Regarding claim **10**, *Lai* further teaches host devices (edge routers) shown in Figures 7 and 8.

Regarding claims **16 and 18**, *Lai* teaches a priority scheme for IP with QoS over ATM on page 21, where the precedence field in the ToS field of an IP header is used by a host device (means) to determine which switched virtual circuit (SVC) to use for a particular data flow.

*Lai* does not explicitly teach the maintaining and use of a table data structure that correlates specific precedence values of a ToS field with corresponding SVCs.

However, *Lai* further teaches on page 30 how the precedence field yields 8 different service classes of priority, and also teaches on page 31 how real-time traffic classes have their own SVCs while lower priority classes are sent on aggregate SVCs.

*Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given the above teachings, to perform the above algorithm using a table data structure in order to provide organized storage of the data used for comparison.

Regarding claim **19**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **20**, *Lai* further teaches the provisioning of aggregate and dedicated SVCs on page 22, Figures 7 and 8.

Regarding claim **21**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **22**, *Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

Regarding claim **23**, *Lai* further teaches the 3-bit precedence data present in the ToS octet of an IP datagram header as shown on page 28.

Regarding claims **27 and 29**, *Lai* teaches a priority scheme for IP with QoS over ATM on page 21, where the precedence field in the ToS field of an IP header is used to determine which switched virtual circuit (SVC) to use for a particular data flow.

*Lai* does not explicitly teach the maintaining and use of a table data structure that correlates specific precedence values of a ToS field with corresponding SVCs.

However, *Lai* further teaches on page 30 how the precedence field yields 8 different service classes of priority, and also teaches on page 31 how real-time traffic classes have their own SVCs while lower priority classes are sent on aggregate SVCs.

*Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given the above teachings, to perform the above algorithm using a table data structure in order to provide organized storage of the data used for comparison.

Regarding claim **30**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **31**, *Lai* further teaches the provisioning of aggregate and dedicated SVCs on page 22, Figures 7 and 8.

Regarding claim **32**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **33**, *Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

Regarding claim **34**, *Lai* further teaches the 3-bit precedence data present in the ToS octet of an IP datagram header as shown on page 28.

Regarding claims **39 and 41**, *Lai* teaches a priority scheme for IP with QoS over ATM on page 21, where the precedence field in the ToS field of an IP header is used by a host device (router) to determine which switched virtual circuit (SVC) to use for a particular data flow.



*Lai* does not explicitly teach the maintaining and use of a table data structure in a memory that correlates specific precedence values of a ToS field with corresponding SVCs.

However, *Lai* further teaches on page 30 how the precedence field yields 8 different service classes of priority, and also teaches on page 31 how real-time traffic classes have their own SVCs while lower priority classes are sent on aggregate SVCs.

*Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given the above teachings, to perform the above algorithm using a table data structure in order to provide organized storage of the data used for comparison.

Regarding claim **42**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **43**, *Lai* further teaches the provisioning of aggregate and dedicated SVCs on page 22, Figures 7 and 8.

Regarding claim **44**, *Lai* further teaches on page 31 how packets with class 0 through 5 priorities are sent on aggregate VCs.

Regarding claim **45**, *Lai* further teaches an algorithm on pages 32-35 for comparing precedence values and determining which SVC a given incoming flow should be sent on.

Regarding claim **46**, *Lai* further teaches the 3-bit precedence data present in the ToS octet of an IP datagram header as shown on page 28.

10. Claims **52-55** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al. cited in Applicant's IDS submitted 2/21/06 (hereinafter "*Lai*") in view of Miyamoto et al. (U.S. 6,618,381) ("*Miyamoto*").

Regarding claims **52-55**, *Lai* further teaches an ATM cloud (backbone) on page 22, Figures 7 and 8, that connect host devices A-E.

*Lai* does not explicitly teach where the ATM backbone comprises a plurality of switches.

However, *Miyamoto* teaches an ATM system in Figure 1C comprising a plurality of ATM nodes connecting end devices 1.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to use an ATM cloud as in *Lai* containing a plurality of intermediate repeater ATM switches in order to provide more efficient transmission of data flows.

#### ***Allowable Subject Matter***

11. Claims **11, 35, and 47** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim **11**, while *Lai* teaches the method of claim **5**, *Lai* fails to teach where the table stores an IP address, a network service provider access point (NSAP)

of the second router, a precedence value contained in the header, and a SVC identifier in each row.

Regarding claim **35**, while *Lai* teaches the computer readable medium of claim **33**, *Lai* fails to teach where the table stores an IP address, a network service provider access point (NSAP) of the second router, a precedence value contained in the header, and a SVC identifier in each row.

Regarding claim **47**, while *Lai* teaches the router of claim **41**, *Lai* fails to teach where the SVC table stores a network service access point (NSAP) address and IP address of an edge router at the next hop associated with each SVC, and where the encapsulator sends an IP address of an edge router at the next hop and a precedence value to the table as a key in order to determine which SVC to send the packet over.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.  
Examiner  
Art Unit 2616

mjm MM

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